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Rationale of *Bringing it Home*

- Eating more FJV protects against cancer
- African Americans eat less FJV than other Americans and are at higher risk for cancer
- School-based nutrition education has had moderate success
- It is important, but difficult, to reach families through schools
- Children can serve as “health messengers” to their parents



Objective of *Bringing it Home*

- To increase FJV consumption among lower-income, African American families by providing a program delivered through the elementary school using the child as change agent



Bringing it Home Program Overview

■ Phase I and II

- ◆ Design of program materials 1996-98
- ◆ Implementation & evaluation 1998-00

■ Target population

- ◆ Parent (primary caregiver) in household with 4th grade child


■ Southeastern urban school system

- ◆ >95% free/reduced price school meals
- ◆ 98% African American
- ◆ Face socioeconomic disadvantage



Phase I: Formative Evaluation

- Based upon social cognitive theory integrated into the sociocultural context of African American families
- Recruited parents from four schools in the same school system
- Three separate sets of focus groups with parents
 - ◆ Behavior and nutrition patterns
 - ◆ Program message testing
 - ◆ Program materials testing



Behavioral and Nutritional Patterns

Focus Groups

- Ten focus groups
 - ◆ 15 African American parents in each group
- Purposes
 - ◆ To gain insights into eating, shopping, and cooking habits
 - ◆ To understand the influence parents and children have on each other regarding eating habits
 - ◆ To identify barriers and facilitators to increasing fruit and vegetable consumption



Behavioral and Nutritional Patterns

Focus Groups

■ Food choice

- ◆ Taste, convenience, price
- ◆ Bought what family liked and would eat because they could not afford waste
- ◆ Valued importance of healthy eating
- ◆ Concerned about cancer, heart disease, diabetes, obesity in their families
- ◆ Responsibility for getting their children to eat healthy, but not themselves



Behavioral and Nutritional Patterns

Focus Groups

- Shopping and Cooking
 - ◆ Shop once or twice a month
 - ◆ Food runs out by end of month
 - ◆ Cook 3 times a week
 - ◆ Recipe should take no more than 20 minutes
 - ◆ Most children help cook
 - ◆ Eating “on the run”



Behavioral and Nutritional Patterns Focus Groups

- Reasons for eating F&V
 - ◆ Long-term health benefits
 - ◆ “Clean the system”
- Reasons for not eating F&V
 - ◆ Cost
 - ◆ Have to shop too often
 - ◆ Spoilage
 - ◆ Takes too much time to prepare/cook



Behavioral and Nutritional Patterns

Focus Groups

■ Program planning

- ◆ Feature persons “like me”
- ◆ “Step by step” demonstrations, simple recipes, practical tips
- ◆ Family oriented and include children
 - Children would learn good eating habits
 - Parents would be more motivated if home program was part of child’s education at school



Program Message Testing Focus Groups

- Six focus groups (15 parents in each)
- All parents of 4th graders
- All African American women, 25-35 years old
- Purposes
 - ◆ To gain insight into culturally appropriate messages
 - ◆ To identify effective persuasive messages
 - ◆ To get feedback on specific program ideas



Program Message Testing Focus Groups

- Culturally appropriate themes
 - ◆ Surface structure
 - Foods, language, music, dress, environment
 - Culturally identifiable role models
 - ◆ Deep structure
 - Family ties across generations
 - “Back to way we were meant to eat”
 - Building a stronger generation
 - Entire family unit working together



Program Message Testing

Focus Groups

■ Persuasive messages

- ◆ *You'll live longer, feel better if you eat like this*
- ◆ *Be a role model for your child--if you eat better, your child will eat better*
- ◆ *Show how it's not a hard thing to do--won't cost anymore, easy to eat FJV*
- ◆ *Talk about risk of disease, how you can prevent disease if you eat FJV*
- ◆ *Say you're going to drop some weight*



Program Materials Testing

Focus Groups

- Purpose
 - ◆ Reactions to presentation format
 - ◆ Receipt of messages
- Minor changes
- Lesson learned: Effort in the beginning to develop messages and materials in the community before moving straight into production and implementation was worthwhile



Phase II: Intervention

- Implemented during 4th grade
 - ◆ October 1998-April, 1999
- Intervention Components
 - ◆ Curriculum for 4th graders
 - ◆ Calendar
 - ◆ Tailored letters
 - ◆ Videos with magazines
 - ◆ Encouragement calls



School-Based Curriculum

- Two 30-minute sessions per month for school year
 - ◆ Classroom: Experiential activities that emphasized skills for encouraging parent to eat FJV and having FJV in home, FJV preparation and tasting
 - ◆ School-to-Home activities: FJV diaries, recipe preparation, encouragement to eat more FJV, encouragement to watch videos and read magazines



Calendar

- Featured photograph of seasonal FV
- FJV recipe
- FJV “tip of the month”
- Behavioral cues to parent to watch video/read magazine
- Behavioral cues to child to deliver 5-A-Day message to parent



Tailored Letters

- Monthly personalized letters
 - ◆ Message for a FJV behavior at meal or snack emphasized that month in the curriculum
 - ◆ Tailored on parent's reported usual consumption pattern for that meal/snack
 - ◆ Tailored on FJV preferences



Videotapes and Magazines

- Receive monthly videos and corresponding magazines
 - ◆ Three core videos encouraging change
 - ◆ Four videos of choice within categories
 - Cooking and Shopping Advice
 - Saving Time and Money
 - Health Benefits



Why Videos?

- Reach families in their homes
- Interactive activity that parent and child could do together
- Promote behavior change through role modeling and demonstration of skills
- Engaging to sustain interest
- Reading is least favored activity
- 98% of homes have VCRs



Core *Bringing it Home* Videos

- Introduction, booster, maintenance at beginning, midpoint, and end of program
 - ◆ “Real” family making changes, followed documentary style
 - ◆ Children giving advice to parents
 - ◆ Skills to make change
 - ◆ Cooking demonstrations
 - ◆ Goal setting for parent and child
 - ◆ Famous African American celebrities talking about their favorite FJV



Bringing it Home Library Videotapes

■ **Cooking and Shopping Advice**

- ◆ Buying the Best, Making Them Last
- ◆ Kitchen Magic
- ◆ Spice of Life
- ◆ Meal Appeal

■ **Saving Time and Money**

- ◆ Beating the Budget Blues
- ◆ Grab n' Go
- ◆ From Door to Table in 20 Minutes
- ◆ Cook's Choice: Fresh, Frozen or Canned

■ **Health Benefits**

- ◆ Why Mama Was Right
- ◆ Weight Control Secrets with Fruits & Vegetables
- ◆ Superstars for Health
- ◆ Building a Stronger Generation



Video Messages

- Increase FJV availability and accessibility at home and when away from home
- Skills for fast and easy FJV preparation
- Tips on buying and storing FJV
- Promoting FJV for meals/snacks instead of non-FJV choices (e.g., fruit for dessert)
- Ways of adding FJV to each meal/snack in light of usual eating patterns



Encouragement Calls

- Parents were called monthly and asked whether or not they had participated in the intervention activities
- If not, they were provided motivational messages to do so



Phase II: Outcome Evaluation

- Nested cohort design with one treatment and one control condition
- 22 schools matched on size, mobility rate, ITBS, % free/reduced price lunch
- Randomly assigned within pairs to intervention or comparison conditions
- Fixed cohort



Outcome Measures

- Telephone survey: baseline and post
- Main outcome variable: FJV intake
 - ◆ 7-item food frequency questionnaire
 - ◆ One 24-hour dietary recall
 - National 5-A-Day guidelines
 - Counted only if at least 1/2 of a regular FJV serving was included in the food consumed
- Secondary outcome variable
 - ◆ Self-reported weight as part of 24-hour dietary recall



Analysis Methods

- School as the unit of assignment, individual as the unit of observation
- PROC MIXED, mixed model regression model to account for intraclass correlation, with schools and individuals as random effects, treatment group as a fixed effect
- Post-intervention group differences were examined after controlling for sociodemographic variables and baseline values



Results: Characteristics of Sample

- Baseline and post-intervention data for 615 parents (75% retention rate)
- 95% African American women
- 83% mothers
- 64% single
- 60% high school education or less
- Mean age of 38 years
- Average of 3 children in the household



Results: FJV Consumption

- Parents in the intervention group consumed significantly more servings of FJV than parents in the control group
 - ◆ 1.33 servings more total FJV, excluding fried potatoes
 - ◆ .95 servings more fruit and juice
 - ◆ .49 servings more fruit
 - ◆ .48 servings more juice
 - ◆ .34 servings more orange juice
 - ◆ .33 servings more vegetables
- The intervention effect was 1.75 FJV servings among those with a body mass index ≥ 25



Results: Weight Loss

- The average post-intervention weight among the intervention group was 3.6 pounds less than the control group (p=.04)
- For those with a body mass index ≥ 25 , the weight loss was 5.0 pounds (p=.03)



Post-Intervention Focus Groups

- 6 focus groups
- Videotapes most enjoyed and useful method for behavior change followed by calendar and letters
- Child's involvement in the program was the major influence on parent participation and behavior change
- Child served as an encourager, reminder, and information resource to the family
- It was important that the program was part of their child's school



Strengths of Bringing it Home

- Used qualitative data and community approach to guide program development
- Unique strategy of using child as change agent
- Multi-component, culturally appropriate program, with many ways of presenting 5-A-Day message
- Reached a lower-income, young, inner-city African American adult population in their homes
- Produced substantial dietary change, was more effective among those who were overweight, and influenced weight loss



Conclusions

- Using child as change agent can result in substantial parental dietary behavior change among lower income African American families
- FJV consumption offers promise of lessening the epidemic of obesity



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